

REMARKS

In the Office Action dated July 11, 2006, the Examiner rejected claims 2-11 and 13-20 under 35 U.S.C. § 103(a) as unpatentable over May, Thomas et al., "Reducing the Peak-To-Average Power Ratio in OFDM Radio Transmission Systems" ("May") in view of U.S. Patent No. 5,262,734 to Dent et al. ("Dent").

In this Amendment, the Assignee amends claim 8 to depend on claim 2. The Assignee also adds new claims 21-23. New claims 21-23 find support at least in FIG. 2, element 138, and column 11, lines 14-15 and 46-51. No new matter has been added.

Rejection of Claims 2-5, 8-11, 13-16, and 18-20

Claim 2 recites a combination of elements including, among other things, "a substantially linear amplifier configured to amplify said second modulated signal." The Examiner correctly recognized that May does not disclose this feature of claim 2 by stating:

May et al does not teach the inclusion of a linearizer or linearizing limitations (i.e. May does not teach the limitation of predistorting the modulated signal prior to the linear amplification).

Office Action at p. 3. In this respect, the Examiner's analysis is consistent with the analysis of Dr. Neil Birch as set forth in the attached Declaration under 37 C.F.R. § 1.132 ("Second Declaration").

Instead of a "substantially linear amplifier," as claimed, May discloses an "ideal limiter" in Fig. 1 with normalized input and output amplitudes shown in Fig. 1. See Second Declaration at ¶ 9. The amplifier described in May is a classic form of non-linear amplifier. Id. at ¶ 10. Such amplifiers are also referred to as "clipping amplifiers" or "saturating amplifiers." Id. Indeed, May describes a theoretical system including an

additive correcting function that reduces amplitude peaks exceeding the clipping threshold A_o of the non-linear clipping amplifier. Id. at ¶ 11. In fact, the correcting function in May is based on the non-linear characteristics, i.e., the clipping threshold, of the non-linear amplifier. Id. at ¶ 12. Therefore, at least because the core teaching of May is to generate and apply a correcting signal that is tailored to the non-linearity of the amplifier used in the system, persons skilled in the art would not understand May as disclosing, or rendering obvious, the “substantially linear amplifier,” as recited in claim 2. Id. at ¶ 14.

The Assignee notes that the inventor, Ronald McCallister, directly contradicted the Examiner’s analysis with respect to the claimed “substantially linear amplifier” in an “Inventor’s Submission” dated August 16, 2006 found in co-pending application No. 10/718,507 (“Inventor’s Second Submission”). In the Inventor’s Second Submission, the inventor contradicts the Examiner by characterizing the “ideal limiter” in Fig. 1 of May as “describing the claimed linearizer or linearizing limitations.” Second Submission at p. 2. The inventor’s Second Submission also contradicts the sworn declaration of an expert in the field of the invention. See Second Declaration at ¶¶ 9-12. At least for these reasons, the un-sworn Inventor’s Second Submission should be given no weight by the Examiner.

Instead of relying on May, the Examiner relied on Dent with respect to the “substantially linear amplifier,” as recited in claim 2. See Office Action at p. 3. The Examiner states that Dent discloses “a digital predistortion circuit 28 (digital linearizer).” Id. Indeed, Dent describes a linear RF power amplifier 10 that produces intermodulation products at frequencies not present at the amplifier input. Second

Declaration at ¶ 15. The amplifier in Dent, however, is not the “ideal limiter” required by the system modeled in May. Id. at ¶ 16. In fact, May’s system would be inoperable if the linear amplifier of Dent were substituted for May’s non-linear amplifier at least because Dent’s linear amplifier has no disclosed clipping threshold. Id. at ¶ 16.

Thus, at least because the combination of May and Dent would result in an inoperable combination, they cannot render claim 2 obvious. See M.P.E.P. § 2143.01, part V (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”).

In addition, claim 2 recites a combination of elements including, among other things:

a delay element coupled between said modulated-signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal.

The Examiner’s position in the Office Action is that “a delay element” as claimed is inherent in May. See Office Action at p. 3. In this respect, the Examiner has relied on an un-sworn “Inventor’s Submission” dated July 6, 2005 (“Inventor’s First Submission”). Regarding the Inventor’s First Submission, the Examiner has stated that “the examiner is not aware of any requirement that the inventor has to submit a sworn opinion.” Id. at p. 5. The Examiner has also stated that “[i]t is therefore the Examiner’s position that the inventor is the better expert in the field of his own invention.” Id. For the reasons stated below, however, the Assignee believes that the Examiner should reconsider and dismiss the Inventor’s First Submission.

Although the inventor states in both submissions that “I [Ronald D. McCallister] . . . have no interest in the application,” the inventor has not fully disclosed his interests. In fact, Mr. McCallister has not disclosed that he has a potential adverse interest in the patent application. After the current Assignee obtained full rights to this patent application, the inventor, Ronald McCallister, attempted to obtain a license for U.S. Patent No. 6,366,619 patent, upon which this reissue is based, for his employer CrestCom. See Declaration by Paul Bernkopf at ¶ 4 and 5. Mr. McCallister was unsuccessful in his attempts to obtain a license. Id. During negotiations, however, Mr. McCallister stated that “an exclusive license to [the ’619 patent] . . . might nonetheless be valuable to CrestCom.” Id. at ¶ 5. Thus, Mr. McCallister and his apparent employer, CrestCom, may gain from unnecessarily narrow claims, or no claims, being allowed in this patent application.

To the contrary, the declarations by Dr. Birch not only show that Dr. Birch is a well-respected expert in the field, but that “willful false statements and the like so made [by Dr. Birch] are punishable by fine or imprisonment.” Despite the opportunity, the inventor has not made such a statement in either the First or Second Inventor’s Disclosure. In addition, Mr. McCallister has not, despite the opportunity, specifically rebutted the First Declaration of Dr. Birch.

The attached declaration provides further evidence that even if May inherently disclosed “that the input signal is delayed by at least half of the pulse shape duration,” which it does not, May would not enable one of ordinary skill in the art to carry out the claimed invention. Second Declaration at ¶¶ 18-21. The peaks in May’s correcting signal are not offset in time from the modulated signal by a constant interval. Id. at ¶

19. In addition, feeding May's modulated signal through a fixed delay element will not correctly align the amplitude peaks with the peaks in the correcting signal. Id. May provides no description of circuitry for correctly aligning the amplitude peaks with the peaks in the correcting signal. Id. In addition, a person of ordinary skill in the art could not implement such a system described in May without undue experimentation. Id.

Without undue experimentation, May does not enable one of ordinary skill in the art to implement "a delay element coupled between said modulated-signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal," as recited in claim 2. Id. Further, Dent does not cure the deficiencies of May. Dent does not disclose or suggest "a delay element coupled between said modulated- signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal," as recited in claim 2. On the other hand, one embodiment in the patent specification enables "a delay element" by disclosing a fixed delay element. See Fig. 2, element 138 ("Delay Element"). The Assignee notes, however, that claim 2 is not limited to a fixed delay.

Claims 3-5 and 8-11 depend on claim 2 and include all the limitations of claim 2. Thus, for the reasons set forth above, claim 3-5 and 8-11 are not obvious over May in view of Dent. Therefore, the Assignee respectfully request that the Examiner reconsider and withdraw the rejection of claims 3-5 and 8-11 under § 103(a).

Although claims 14 and 18 are of different scope from each other and claim 2, claims 14 and 18 recite features in common with claim 2. For example, claim 14 recites a combination of elements including, among other things, "delaying said first modulated

signal into synchronism with said constrained bandwidth error signal." Further, claim 14 recites "linearly amplifying said second modulated signal." In addition, claim 18 recites a combination of elements including, among other things, "a delay element for delaying said first modulated signal into synchronism with said constrained bandwidth error signal." Further, claim 18 recites "a substantially linear amplifier configured to amplify said second modulated signal."

Thus, claims 14 and 18 are allowable at least for the same reasons as claim 2. The Assignee respectfully request that the Examiner reconsider and withdraw the rejection of claims 14 and 18 under § 103(a).

Claims 13, 15, 16, 19, and 20 depend on one of claim 14 or claim 18 and include all the limitations of their respective base claims. Therefore, claims 13, 15, 16, 19, and 20 are allowable for at least the same reasons as claims 14 and 18. Assignee respectfully request that the Examiner reconsider and withdraw the rejection of claims 13, 15, 16, 19, and 20 under § 103(a).

Rejection of Claims 6, 7, and 17

Claims 6, 7, and 17 stand rejected under § 103(a) as being unpatentable over May in view of Dent. The Assignee traverses these rejections.

Although claims 6 and 17 are of different scope than each other and claim 2, they include some similar features as claim 2. For example, claim 6 recites "a substantially linear amplifier configured to amplify said second modulated signal." Claim 17 recites "linearly amplifying said second modulated signal." As discussed above with respect to claim 2, the combination of May and Dent would result in an inoperable combination and, therefore, these two references cannot be combined to render claim 6 or 17

obvious. See M.P.E.P. § 2143.01, part V. In addition, claim 7, which depends on claim 6 and includes all of its features, cannot be rendered obvious by the combination of May and Dent. Therefore, Assignee respectfully requests that the Examiner reconsider and withdraw the rejection of claims 6, 7, and 17 under § 103(a).

Claim 6 recites a combination of elements including, among other things:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio; . . .

wherein said modulated-signal generator is a code division multiple access (CDMA) modulator and said first modulated signal conveys a plurality of code-channels of said to-be-communicated data.

The Examiner does not point to any references regarding the modulated-signal generator being a CDMA modulator as claimed. Instead, the Examiner apparently takes an “Official Notice” of this entire element by stating:

May teaches transmitting the signals simultaneously using a plurality of codes. It would have been obvious to one skill[ed] in the art to implement the generator as a CDMA modulator so as to be compatible with system(s) that use[] CDMA technology.

See Office Action at p. 4. The Assignee respectfully disagrees with this assertion. Applicant respectfully requests that the Examiner cite references in support of the Examiner's assertion or provide an affidavit if it is within the Examiner's personal knowledge. See M.P.E.P. § 2144.03. Otherwise, the Assignee respectfully requests that the examiner reconsider and withdraw the rejection of claim 6 under § 103(a).

Claim 7 also recites a combination of elements including, among other things:

A constrained-envelope digital communications transmitter circuit as claimed in claim 6 wherein said CDMA modulator includes a Nyquist-type pulse spreading filter which provides said first modulated signal.

Again, the examiner does not point to any references regarding this element of claim 7. Instead, the Examiner apparently takes an “Official Notice” of this entire element by stating:

[I]t would have been obvious to one skill[ed] in the art to incorporate a Nyquest filter in said CDMA modulator and the motivation to do so would have been the same as provided with respect to claim 6.

See Office Action at 7. The Assignee respectfully disagrees with this assertion. Assignee respectfully requests that the Examiner cite references in support of the Examiner's assertion or provide an affidavit if it is within the Examiner's personal knowledge. See M.P.E.P. § 2144.03. Otherwise, the Assignee respectfully requests that the examiner reconsider and withdraw the rejection of claim 7 under § 103(a).

In addition, claim 17 recites a combination of elements including, among other things, “said first-modulated-signal-generating activity configures said first modulated signal as a code division multiple access (CDMA) signal conveying a plurality of code-channels of said to-be-communicated data.” The Examiner merely points to the rejection of claim 6 to reject claim 17. As shown above, however, the Examiner does not point to any references that disclose all the features of claim 6, or, for that matter, claim 17. The Assignee respectfully requests that the Examiner cite references in support of the Examiner's assertion or provide an affidavit if it is within the Examiner's

personal knowledge. See M.P.E.P. § 2144.03. Otherwise, the Assignee respectfully requests that the examiner reconsider and withdraw the rejection of claim 17 under § 103(a).

The Office Action dated July 11, 2006, contains certain characterizations of the invention, the application claims, and the prior art with which the Assignee does not necessarily agree. Unless expressly noted otherwise, Assignee declines to subscribe to any statement or characterization made in the Office Action.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 50-1070.

Respectfully submitted,

HARRITY SNYDER, LLP

Dated: June 11, 2007

By: /Kenneth M. Lesch/
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Attachments: Declaration Under 35 U.S.C. § 1.132 by Neil Birch
Declaration under 35 U.S.C. § 1.132 by Paul Bernkopf